



Space Congress Programs

5-1-2001

2001 Thirty-Eighth Space Congress Program

Canaveral Council of Technical Societies

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PROGRAM

38th
Space Congress

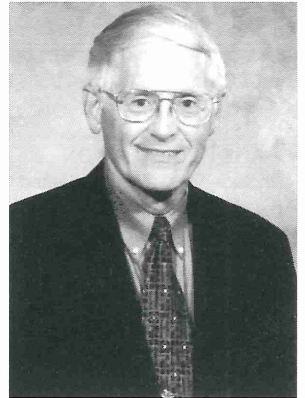
Cape Canaveral, Florida
May 1-4, 2001

Chairman's Message

This year's theme is "A Space Odyssey – The Next 50 Years".

Space Congress is an international conference aimed primarily towards professionals in the space business but also at professionals from all the peripheral industries and disciplines that make space transportation and exploration possible.

In keeping with this focus, we are gathering a variety of outstanding and knowledgeable speakers including Retired Lt. General and astronaut Tom Stafford as our dinner speaker. We will also be holding three extremely informative panels covering Defense/Commercial, International and Science. The Congress provides our attendees the opportunity to learn and to contribute to the advancement of space operations.



During the course of this 38th Space Congress, our speakers will discuss the impact of past space exploration efforts on the understanding of space, the growth of human knowledge and its impact upon ground based technologies applicable to everyday life. They will cover, in some detail, current efforts to develop the space environment for permanent human occupation and use. This will include ideas from the commercial as well as the government worlds. Exploration efforts both manned and unmanned will also be presented.

Looking towards the future, we will also consider some of the emerging concepts for exploring and exploiting the space environment. Predicting the outcome of such nascent ideas, technologies and applications is difficult and rarely proceeds as planned! However, the speculation and argument developed allow for greater advances to be made.

So, please join us in sunny Cape Canaveral for the 38th Space Congress.

A handwritten signature in cursive script that reads "Mike Butchko".

Mike Butchko,
General Chairman,
38th Space Congress

Information

Headquarters/Registration

Headquarters for the **Thirty-Eighth Space Congress** is the Radisson Resort at the Port, Bonaire Room. There you may pick up your registration packages and other Space Congress materials including copies of the Proceedings, and tickets for Panel/Paper sessions, the exhibit reception, luncheons and the banquet. Space Congress memorabilia are also available at the Convention Center lobby. Registration will be open from 12:00 - 5:00 p.m. on Monday, April 30 and 7:00 a.m. - 5:00 p.m. from Tuesday through Thursday.

PACKAGE REGISTRATION	\$160.00
(Includes first five items listed below)	
Registration	85.00
Tuesday Banquet	50.00
Wednesday Exhibit Reception	20.00
Tuesday Luncheon	17.50
Wednesday Luncheon	17.50
Single Session.....	17.00
Proceedings Hard Copy (Not in Package)	80.00
Proceedings CD-Rom (Not in Package)	40.00
Golf (Not in Package)	50.00

ALL SPACE CONGRESS ACTIVITIES WILL BE HELD AT THE RADISSON RESORT AT THE PORT.

Package registration will save you money, however, each item may be purchased individually at the listed price. Telephone contact during the Space Congress can be made through the Radisson Resort at the Port, (321) 784-0000, or direct, (321) 799-4845.

Press Room

The press facility is located in the Bermuda Room in the Radisson Resort at the Port. The press facility is open from 12 noon to 5:00 p.m. on Monday and from 8:00 a.m. to 5:00 p.m. on Tuesday, Wednesday and Thursday, and 8:00 a.m. to 12:00 p.m. Friday. The telephone numbers for the press facility is (321) 799-9771, (fax number: (321) 799-9772).

Message/Locator Assistance

The sponsoring organization, the Canaveral Council of Technical Societies (CCTS), maintains a message locator desk in the Convention Center with telephone (321) 799-4846, for the convenience of Space Congress participants. It also assists attendees by maintaining a message board. Registrants who wish to leave lodging and local phone information can do so by turning in locator forms to the CCTS Message/Locator Desk.

Proceedings

The Proceedings of the **Thirty-Eighth Space Congress** are available at the Registration Desk in the Radisson Resort at the Port during the Space Congress. After the close of the Space Congress, additional Proceedings can be purchased for \$80 each for hard copy, and \$40 each for CD-Rom plus postage from: Secretary, CCTS, Post Office Box 245, Cape Canaveral, Florida 32920.

Exhibits

The Exhibit Hall will feature displays and demonstrations from over 60 exhibitors. It will include exhibits on Space Shuttle, International Space Station, computer graphics demonstration, and other aerospace-related topics. The Exhibit Hall will be open to the public in the Radisson Resort at the Port on the following schedules: Tuesday - 11:00 a.m. to 7:00 p.m. Wednesday - 11:00 a.m. to 5:00 p.m.; and Thursday - 9:00 a.m. to 3:00 p.m. Admission tickets are available at the Registration Desk for the Wednesday Exhibit Reception to be held from 6:00 - 8:00 p.m.

Exhibitors

ACTA
AJT & Associates
Analex
Analytical Graphics, Inc.
Anteon Corporation
Astrotech Space Operations
BAE Systems Cincinnati Electronics
The Boeing Company
Brevard Community College
Canaveral Port Authority
Computer Sciences Raytheon
Delaware North Parks Services
Florida Space Institute
Hubble Space Telescope
InDyne, Inc.
Jet Propulsion Laboratory (JPL)
Johnson Controls, Inc.
Jones, Edmunds & Associates, Inc.
Krieger Publishing Company
L-3 Communications
Lockheed Martin
NASA/KSC
The National Management Association
Naval Ordnance Test Unit
Orbital Sciences Corp.
Research Triangle Institute
Sicence Applications International Corp.
Space Gateway Support
Spaceport Florida Authority
Sverdrup Technology, Inc.
Swales Aerospace
Technological Research & Development Authority (TRDA)
Thiokol Propulsion
TYX Corporation
United Paradyne Corp.
United Space Alliance
Webster University
Wyle Laboratories, Inc.

Youth Science Fair

Regional Youth Science Fair displays and demonstrations will be open to the public Tuesday through Thursday, in the Radisson Convention Center Exhibit Hall. Exhibits will be judged and awards presented on Thursday evening, May 3, at the beginning of the "Meet the Astronauts" panel session.

Space Congress Golf Tournament

Golfers will be able to enjoy a tournament at the Cocoa Beach Country Club on Friday, May 4, 2001.

The tournament will be a Scramble format, as in the past. Foursomes may sign-up if they provide a combined total, certifiable handicap of 58 or higher. **NOTE: Only one player with a handicap of 10 or lower allowed per team.**

Singles that sign up will be paired with teams that are not filled. A maximum of 144 players will be registered on a first-in basis.

Entry fee is \$50 per player or \$200 per 4-person team. Entries will be accepted after January 3, 2001.

Included in the entry fee: Green fees - 1/2 cart - Bar-B-Que Lunch - Prizes
Schedule of events is as follows:

10:00 a.m.	Check-in at course begins
11:00 a.m.	Lunch
12:00 p.m.	Shotgun Start

Pioneers' Annual Banquet

The Pioneers' Banquet 2001 will be held on Friday, May 4, at the Officers' Club, Patrick Air Force Base.

Social Hour: 6:30 p.m.

Dinner: 7:30 p.m.

Speaker: 8:30 p.m. *Roy D. Bridges, Director, KSC*

Registration is in the Convention Center at the Radisson Resort at the Port, and 5:30 to 6:30 p.m. at the Officers' Club on May 4.

Canaveral Council of Technical Societies

CCTS Member Societies:

AACE International
Air Force Association (Cape Canaveral Chapter)
American Institute of Aeronautics & Astronautics
American Institute of Chemical Engineers
American Meteorological Society
American Society of Civil Engineers
American Society of Heating, Refrig. & A/C Engineers
American Society for Industrial Security
American Society of Mechanical Engineers
American Society for Quality
American Society of Safety Engineers
American Society for Training and Development
Armed Forces Communications and Electronics Association
Florida Engineering Society
Florida Space Business Roundtable
Human Factors and Ergonomics Society
Institute of Electrical & Electronic Engineers (Melbourne and Canaveral Sections)
International Council on Systems Engineering
Missile, Space & Range Pioneers, Inc.
NASA Alumni League
National Contract Management Association
National Space Club - Florida Committee
Society for Technical Communication
Society of American Military Engineers
Society of Logistics Engineers
Society of Manufacturing Engineers
Society of Women Engineers

Associate Members:

Association for Quality and Participation
Brevard Council of Teachers of Mathematics
National Management Association, Florida Space Coast Council
USAF Space & Missile Museum Foundation

Advisor Organizations

Brevard Community College
Embry-Riddle Aeronautical University
Florida Institute of Technology
University of Central Florida
Florida Solar Energy Center

Many of the societies will have educational/promotional brochures/information on display at the Radisson Resort at the Port, Convention Center. Attendees are invited to stop by and review this material.

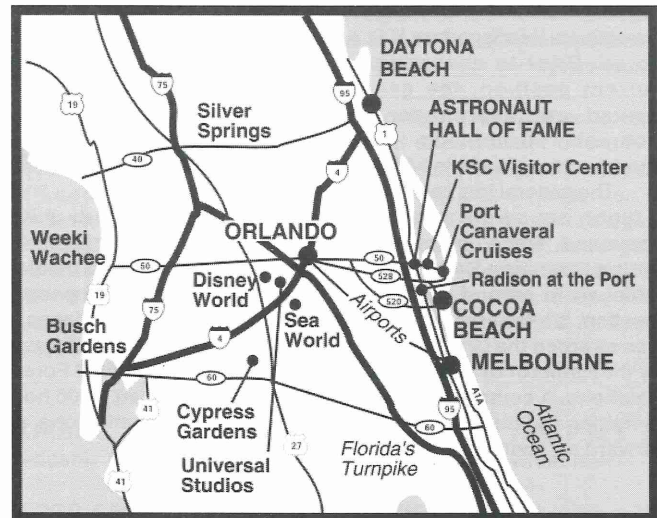
Attraction Centers

The Space Coast is among the most popular tourist destinations in the world, featuring a unique blend of high tech and natural attractions.

The **Kennedy Space Center Visitor Complex** offers visitors an unprecedented insider's view of the exciting past, present and future of our nation's space program. **The Astronaut Hall of Fame** showcases the personal side of spaceflight with astronaut artifacts and memorabilia. **Brevard Community College** is the home to one of the world's premier planetariums with a variety of public shows and presentations.

The Space Coast is home to one of the nations busiest cruise terminals featuring 3 and 4 day cruises to the Bahamas aboard Disney, and Carnival, cruise lines. Additionally, there are daily casino cruises aboard the Sterling and SunCruz lines.

The area is also a natural paradise with over 72 miles of beaches and some of the best fresh and saltwater fishing in the nation. Not to mention that the Space Coast is only an hour away from some of the world's most popular tourist attractions, including Walt Disney World, Universal Studios and Sea World.



Program

TUESDAY, MAY 1

KEYNOTE ADDRESS (8:00 a.m. to 8:30 a.m.)

Radisson Resort at the Port, Convention Center

Introductions: Mike Butchko, General Chairman

Speaker: General Ralph E. "Ed" Eberhart, Commander in Chief, North American Aerospace Defense Command; Commander in Chief, United States Space Command; Commander, Air Force Space Command; and Department of Defense Manager for Manned Space Flight Support Operations, Headquarters at Peterson Air Force Base, CO.

The General entered the Air Force in 1968 as a graduate of the U.S. Air Force Academy. His staff experience includes serving as executive officer to the Air Force chief of staff at Headquarters U.S. Air Force; deputy chief of staff for inspection, safety and security, Headquarters Tactical Air Command; director for programs and evaluation, Headquarters U.S. Air Force; director of force structure, resources and assessment, the Joint Staff; and deputy chief of staff for plans and operations, Headquarters U.S. Air Force. Prior to assuming his current position, the general served as Commander, Air Combat Command with headquarters at Langley AFB, VA.



The general has commanded a flight, squadron, wing, numbered air force and sub-unified command. While commander of the 363rd Tactical Fighter Wing during Operation Desert Shield, the unit established the theater's initial air-to-ground combat capability from a forward operating location. While serving as the commander of U.S. Forces, Japan, he was awarded the Grand Cordon of the Order of the Sacred Treasure by the Emperor of Japan. He is a member of the Council of Foreign Relations. A command pilot, he has logged more than 4,300 hours in fighter and trainer aircraft, including 300 combat missions as a forward air controller in Vietnam.

PANEL SESSION I (8:30 a.m. to 11:00 a.m.)

Radisson Resort at the Port, Convention Center

"US GOVERNMENT AND COMMERCIAL ISSUES"

Panel Chair: Brig. General Mike Hamel, Director of Space Operations & Integration, HQ/USAF

LUNCHEON (12:00 NOON TO 1:30 P.M.)

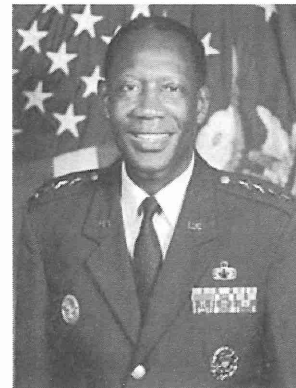
Radisson Resort at the Port, Convention Center

Introductions: Mike Butchko, General Chairman

Speaker: Gen. Lester L. Lyles, Commander, Air Force Materiel Command, Wright-Patterson Air Force Base, OH.

Gen. Lester L. Lyles is commander, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio. The command conducts research, development, test and evaluation, and provides acquisition management services and logistics support necessary to keep Air Force weapons systems ready for war.

The general entered the Air Force in 1968 as a distinguished graduate of the Air Force ROTC program. He has served in various assignments, including program element monitor of the Short-Range Attack Missile at Headquarters U.S. Air Force in 1974, and as special assistant and aide-de-camp to the commander of Air Force Systems Command in 1978. In 1981 he was assigned to Wright-Patterson Air Force Base, Ohio, as avionics division chief in the F-16 Systems Program Office. He has served as director of tactical aircraft systems at AFSC headquarters and as director of the Medium-Launch Vehicles Program and space-launch systems offices.



The general became AFSC headquarters' assistant deputy chief of staff for requirements in 1989, and deputy chief of staff for requirements in 1990. In 1992 he became vice commander of Ogden Air Logistics Center, Hill Air Force Base, Utah. He served as commander of the center from 1993 until 1994, then was assigned to command the Space and Missile Systems Center at Los Angeles Air Force Base, Calif., until 1996. The general became the director of the Ballistic Missile Defense Organization in 1996. In May 1999, he was assigned as vice chief of staff at Headquarters U.S. Air Force. He assumed his current position in April 2000.

EXHIBITS & SCIENCE FAIR (11:00 A.M. TO 7:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

PAPER SESSION I (2:00 P.M. TO 5:00 P.M.)

A. GLOBAL SPACE INITIATIVES

Jamaica Room

Session Chair: Ed Gormel, Executive Director, Spaceport Florida Authority

Session Organizer: Kathleen Conway, United Space Alliance

1. SPACE SHUTTLE, HUMAN SPACE TRANSPORTATION FOR THE NEXT THIRTY YEARS

Ardell Nease, The Boeing Co.

2. CAPE CANAVERAL SPACEPORT MASTER PLAN

René Ponik, NASA/KSC

3. PERFORMANCE BASED LAUNCH SERVICES CONTRACTS: BETTER, FASTER, CHEAPER?

Jane D. Rievley, U.S. Air Force

4. SUBSIDIZATION: FACT OF LIFE, NECESSARY EVIL OR APPROPRIATE POLICY?

Robert W. Eleazer, III

B. HUBBLE DISCOVERIES

Salon I

Session Chair: Frank Cepollina, Deputy Associate Director for HST Development Project, NASA, Goddard Space Flight Center

Session Organizer: Linda Bradley, United Space Alliance

1. DR. DAVID LECKRONE, SENIOR PROJECT SCIENTIST FOR HUBBLE SPACE TELESCOPE

2. DR. STEVE BECKWITH, SPACE TELESCOPE SCIENCE INSTITUTE

3. DR. HOLLAND FORD, JOHNS HOPKINS UNIVERSITY

4. DR. HEIDI B. HAMMEL

5. DR. MARIO LIVIO, SPACE TELESCOPE SCIENCE INSTITUTE

6. DR. RODGER THOMPSON, STEWARD OBSERVATORY, UNIVERSITY OF ARIZONA

C. EDUCATION: SPACE BASED RESEARCH AND DEVELOPMENT

Martinique Room

Session Chair: Tom Devlin, Vice President Educational and International Projects, Jackson and Tull

Session Organizer: Wayne Beaulieu, AF/JPMO

1. COLLABORATIVE ENGINEERING: DEVELOPING NEW INSTRUMENTS FOR SATELLITES

Dr. Howard J. Wood, NASA/GSFC

2. EXTRAVEHICULAR ACTIVITY LESSONS LEARNED FROM HUBBLE SPACE TELESCOPE SERVICING MISSIONS

Russell Werneth, NASA/GSFC

3. NASA DISCOVERIES USED FOR A NEW GENERATION OF EDUCATIONAL PROGRAMS

Tom Devlin, Jackson and Tull

4. BRINGING NASA DATA PRODUCTS INTO SECONDARY SCHOOL CLASSROOMS

David W. Beverley, QSS

5. ATOMIC FORCE MICROSCOPY OF DNA AND DESIGN PARAMETERS FOR A ZERO-G OPERABLE UNIT

Rolando Branly, Broward Community College;

Robert Friedfeld, Stephen F. Austin State University

SPACE CONGRESS BANQUET

Radisson Resort at the Port, Convention Center

Social Hour (7:00 p.m.)

Dinner/Program (8:00 p.m.)

Introductions: Mike Butchko, General Chairman

Speaker: Lt. General Thomas P. Stafford, USAF (Ret.)

General Stafford graduated with honors in 1952 from the U.S. Naval Academy in Annapolis, Maryland and was commissioned as a second lieutenant in the United States Air Force. He received his pilot wings at Connally AFB, Waco, Texas, in September 1953. He completed advanced interceptor training and was assigned to the 54th Flight Interceptor Squadron, Ellsworth AFB, Rapid City, South Dakota. In December 1955, he was assigned to the 496th Fighter Interceptor Squadron, Hahn Air Base, Germany, where he piloted F-86D's and served as flight leader as well as flight test maintenance officer.



Upon returning to the United States in August 1958, General Stafford attended the Air Force Experimental Flight Test Pilot School at Edwards AFB. He graduated in April 1959 and received the A. B. Honts award as the outstanding graduate.

General Stafford was selected for the Second Astronaut Group in September 1962 by the National Aeronautics and Space Administration (NASA) to participate in the Gemini and Apollo Projects. In December 1965, he was the Gemini VI Pilot which performed the world's first rendezvous in space and helped develop techniques to prove the basic theory and practicality of space rendezvous. In June 1966, he commanded Gemini IX and performed three different types of rendezvous exercises including: a demonstration of an early phased rendezvous that would become the standard used in the Apollo missions, the first optical rendezvous, and a simulated lunar module abort rendezvous. From August 1966 to October 1968, he headed the mission planning analysis and software development for the astronaut group for Project Apollo. General Stafford commanded Apollo 10 in May 1969. It was the first flight of the lunar module to the moon. He performed the first rendezvous around the moon and descended to within nine miles of the lunar surface.

He was assigned as Astronaut Group Head in June 1969 and, as such, was responsible for the selection of flight crews for Projects Apollo and Skylab.

In June 1971, General Stafford was assigned as Deputy Director of Flight Crew Operations at the NASA Manned Spacecraft Center. He logged his fourth space flight as Apollo commander of the Apollo-Soyuz Test Project (ASTP) mission, July 15-24, 1975; a joint space flight culminating in the historic first meeting in space between American Astronauts and Soviet Cosmonauts.

General Stafford assumed command of the Air Force Flight Test Center November 4, 1975.

He was promoted to grade of Lieutenant General on March 15, 1978. On May 1, 1978, he assumed duties as Deputy Chief of Staff, Research Development and Acquisition, Headquarters USAF, Washington, D.C. He retired from the United States Air Force in November 1979.

General Stafford has flown six rendezvous' in space, logged 507 hours and 43 minutes in space flight, and wore the Air Force Command Pilot Astronaut Wings. He has flown over 127 different type of aircraft and helicopters and four different types of spacecraft.

He has served as an advisor to NASA and the Air Force Systems Command. He has also chaired numerous governmental committees including: the Operational Oversight Committee to service and repair the Hubble Telescope; the Shuttle-MIR Independent Oversight Review Committee; and, presently, the International Space Station Independent Oversight Review Committee for Safety and Operational Readiness.

General Stafford served on the National Research Council's Aeronautics and Space Engineering Board, the Committee on NASA Scientific and Technological Program Reviews and Vice President Quayle's Space Policy Advisory Council. He also chaired the Clinton Administration's Review Committee formed to enhance NASA's Human Exploration Research and Development efficiency.

He co-founded the technical consulting firm Stafford, Burke, and Hecker, Inc. in Alexandria, Virginia. He sits on the Board of Directors of numerous corporations.



WEDNESDAY, MAY 2

LEAD OFF SPEAKER (8:00 A.M. TO 8:30 A.M.)

PANEL SESSION II (8:30 A.M. TO 11:00 A.M.)

Radisson Resort at the Port, Convention Center

"INTERNATIONAL PERSPECTIVES"

Panel Chair: Jean-Michel Desobeau, *ATV Program Director Arianespace*

EXHIBITS AND SCIENCE FAIR

(11:00 A.M. TO 5:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

LUNCHEON (12:00 NOON TO 1:30 P.M.)

Radisson Resort at the Port, Convention Center

Introductions: Mike Butchko, General Chairman

Speaker: Lt. Gen. Eugene L. "Gene" Tattini, Commander, Space and Missile Systems Center, Los Angeles Air Force Base, CA.

Lt. Gen. Eugene L. "Gene" Tattini is Commander, Space and Missile Systems Center, Los Angeles Air Force Base, Calif. He is responsible for managing the research, design, development and acquisition of space launch, command and control, and satellite systems. With more than 3,200 employees nationwide and an annual total obligation authority in excess of \$5 billion, SMC is the nation's center of excellence for military space acquisition. The general is the Air Force's designated acquisition commander for the Air Force Satellite Control Network, the Space Lift Ranges, the Defense Meteorological Satellite Program, the Space Based Laser Program, and the Atlas, Delta, Titan and Inertial Upper Stage families of launch vehicles that provide assured access to space.



The general was born in Madison, Wis., and graduated from Hampton (Va.) High School in 1961. A distinguished graduate of the Reserve Officer Training Corps program at the University of Illinois, he entered the Air Force as a second lieutenant in 1965. During his Air Force career, he has served in various space, acquisitions and logistics assignments. Prior to assuming his current position, he commanded the Sacramento Air Logistics Center at McClellan Air Force Base.

PAPER SESSION II (2:00 P.M. TO 5:00 P.M.)

A. SPACE STATION

Salon I

Session Chair: Brewster Shaw, Vice President/General Manager, Boeing International Space Systems

Session Organizer: Connie McFadden, The Boeing Co.

1. SPACE COMMERCE – MARKET DRIVEN OPPORTUNITIES FOR FUTURE SPACE COMMERCIALIZATION
James Peters, The Boeing Co.
2. RECONCILER SOFTWARE - MATCHING ENGLISH-LANGUAGE DESCRIPTORS FROM INCOMPATIBLE DATA SET
David R. Throop, The Boeing Co.
3. INTERNATIONAL SPACE STATION DESIGN FOR DEXTEROUS ROBOTICS - INBOARD TRUSS SEGMENTS
Tracey M. Bullock, David E. Anderson, The Boeing Co.
4. DESIGN AND VERIFICATION OF SPACE STATION EVA-OPERATED TRUSS ATTACHMENT SYSTEM
Gabriel R. Katell, The Boeing Co.
5. EARLY INTERNATIONAL SPACE STATION EXTRAVEHICULAR ACTIVITY OPERATIONS
Chris Looper, USA
6. INTERNATIONAL SPACE STATION EXTERNAL ACTIVE THERMAL CONTROL SYSTEM: THERMAL TEST ARTICLE (TTA) TEST RESULTS AND COMPARISON WITH ANALYSIS
Mark A. Sisson, The Boeing Co.

B. EARTH, MOON, MARS, AND BEYOND

Jamaica Room

Session Chair: Mike Kobrick, PhD., Project Scientist, Shuttle Radar Topography Mission, JPL

Session Organizer: Cindy Gooden, NASA

1. THE SHUTTLE RADAR TOPOGRAPHY MISSION - A WORLD MAP IN 3D
Mike Kobrick, et. al., JPL
2. LUNAR AND MARTIAN PALEONTOLOGY
Doug Shull
3. HIGH EFFICIENCY HYPERSPECTRAL IMAGER FOR THE TERRESTRIAL AND ATMOSPHERIC MULTISPECTRAL EXPLORER
R. Glenn Sellar, Rolando Branly, Adam I. Ayala, Patrick L. Bertiaux, David S. Desrochers, Christopher J. Girard, David C. Johnson, Andrew P. Mayer, Chae Ku O, and Ron Schaub
4. SMARTER SOFTWARE FOR ENHANCED VEHICLE HEALTH MONITORING AND INTER-PLANETARY EXPLORATION
Charles H. Goodrich, Dynacs Inc.; William E. Larson, NASA

5. CAPABILITIES OF THE MARS ELECTROSTATICS CHAMBER AT KENNEDY SPACE CENTER
C.I.Calle, et.al., NASA

6. PERFORMANCE STATUS OF THE MARS ENVIRONMENTAL COMPATIBILITY ASSESSMENT ELECTROMETER
J.G. Mantovani, FL Tech; C.I.Calle, NASA/KSC; E.E Groop, NASA/KSC; A.W. Linville, Wilkes University; R.H. Gompf, NASA/KSC; M.G. Buehler, JPL

C. EDUCATING THE NEXT GENERATION

Martinique Room

Session Chair: Richard Fisher, Program Director, Challenger Learning Center, Tallahassee, FL

Session Organizer: Jane Mosconi, NASA

1. EDUCATING THE NEXT GENERATION
Tony Gannon, DNPS
2. AEROSPACE TECHNICIAN LEARNING FOR THE 21ST CENTURY
George L. Gray, Albert M. Koller. Jr., BCC
3. THE NASA INTELLIGENT SYNTHESIS ENVIRONMENT ADVANCED LEARNING SYSTEMS INITIATIVE
Patrick Simpkins, NASA/KSC
4. COLLABORATIVE UKRAINIAN EXPERIMENT-SCIENCE AND TECHNOLOGY EXCHANGE PROGRAM FOR STUDENTS (CUE-STEPS)
Thomas W. Dreschel, Ph.D., and V. Chetirkin, Dynamac Corp; S. Behel, Lake Brantley High School; V. I. Nazarenko, Kiev Junior Academy of Sciences and the Palladin Institute of Biochemistry, Kiev, Ukraine
5. SPACE SETTLEMENT DESIGN: A UNIFYING THEME FOR SKILL DEVELOPMENT THROUGH SCIENTIFIC INQUIRY
Dr. Susan N. Behel, Lake Brantley High School

EXHIBITS RECEPTION (6:00 P.M. TO 8:00 P.M.)

Exhibit Hall (Tickets Required)



THURSDAY, MAY 3

LEAD OFF SPEAKER (8:00 A.M. TO 8:30 A.M.)

PANEL SESSION III (8:45 A.M. TO 11:00 A.M.)

Radisson Resort at the Port, Convention Center

"SCIENCE"

Panel Chair: Art Stephenson, Director, Marshall
Space Flight Center, Huntsville, Alabama

EXHIBITS AND SCIENCE FAIR

(9:00 A.M. TO 3:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

PAPER SESSION III (1:00 P.M. TO 4:00 P.M.)

A. LAUNCH VEHICLES

Salon I

Session Chair: Jean-Michel Desobeau, ATV Program
Director, Arianespace

Session Organizer: Stan Starr, Dynacs

1. ATLAS V/EELV PROGRAM STATUS
Adrian Laffitte, LMCO
2. DELTA IV LAUNCH VEHICLE
Darryl Van Dorn, The Boeing Co.
3. THE FUTURE GENERATIONS OF REUSABLE LAUNCH
VEHICLES
Warren Wiley
4. STATUS OF NEW ARIANE LAUNCH VEHICLE
TBD

B. SCIENTIFIC ENLIGHTENMENT - KNOWLEDGE GAINED FROM SPACE

Jamaica Room

Session Chair: John Bartoe, Research Manager, Space
Station Program, NASA/JSC

Session Organizer: Vicki Miletello, NASA/JPMO

1. SOYBEAN AND CORN SEED GERMINATION IN SPACE:
THE FIRST PLANT STUDY CONDUCTED ON SPACE STATION
ALPHA.
*Howard G. Levine, Dynamac Corp; Kelly L.L. Norwood, Bionetics
Corp.; Georgiana K. Tynes and Lanfang H. Levine, Dynamac
Corp.*
2. CELLULAR BIOTECHNOLOGY PROGRAM
John Love

3. TBD
Sam Durrance, Florida Space Institute

4. CONTINUING LEGACY OF THE SPACE TEST PROGRAM
Charles Finley, ANSER Space Test Program

5. THE FUTURE OF SPACE ENDEAVORS: OUR SEARCH FOR A
REVOLUTION
Dominick Barry, Veridian

C. SPACE ODYSSEY - THE NEXT 50 YEARS

Martinique Room

Session Chair: Michael G. Jacobs, Manager, Atlas V
Program for Launch Operations, Lockheed
Martin Space Systems Company

Session Organizer: Marilou Richardson, United Space Alliance

1. THE COSMIC CONSEQUENCE OF SPACE EXPLORATION
Dr. Joseph A. Angelo, Jr., Florida Tech.
2. THE NEXT 50 YEARS: NIAC LEADING THE WAY INTO THE
21ST CENTURY
Dr. Ron Turner, ANSER; Dr. Robert Cassanova, NIAC
3. THE ECONOMIC IMPACT OF COMMERCIAL SPACE
TRANSPORTATION ON THE U.S. ECONOMY
Philip McAlister, Futron Corp.
4. INNOVATIVE FINANCING OF A LARGE SPACE PROJECT
Andrew W.V. Clark; George R. Tyson, SFO
5. THE CASE FOR A MILITARY SPACEPLANE
Maj Andy Lester, USAF
5. CONSIDERATIONS FOR LARGE-SCALE CONSTRUCTION
IN ORBIT
*S. Wanis, B. Ganesh, N.M. Komerath,
Georgia Tech.*

PANEL SESSION IV (7:00 P.M. TO 8:30 P.M.)

Radisson Resort at the Port, Convention Center

MEET THE ASTRONAUTS

Panel Chairman: Roy D. Bridges, Jr., Center Director
NASA/KSC

Astronauts: As available between Training Commitments



FRIDAY, MAY 4

PANEL SESSION V (9:30 A.M. - 11:30 A.M.)

Radisson Resort at the Port, Convention Center

Student Educational Program for Invited Students

9:30 Astronaut presentation
10:00 Dr. Wood of the Hubble Space Telescope Program
10:45 Mr. Wizard

SPACE CONGRESS GOLF TOURNAMENT

CHECK-IN: 10:00 A.M. - 11:00 A.M.
Golf Lunch: 11:00 a.m. - 12:00 noon
Golf Tournament: 12:00 noon - 4:30 p.m.

**MISSILE, SPACE & RANGE PIONEERS' ANNUAL
BANQUET, PATRICK AFB, OFFICERS' CLUB**

Social Hour: 6:30 p.m.
Dinner: 7:30 p.m.
Speaker: 8:30 p.m. Roy D. Bridges, Jr., Director KSC



PROGRAM SUMMARY

MONDAY, APRIL 30

REGISTRATION DESK OPEN (12:00 NOON TO 5:00 P.M.)

Radisson Resort at the Port

TUESDAY, MAY 1

REGISTRATION DESK OPEN (7:00 A.M. TO 5:00 P.M.)

Radisson Resort at the Port

KEYNOTE ADDRESS (8:00 A.M. TO 8:30 A.M.)

Radisson Resort at the Port, Convention Center

**PANEL SESSION I (8:30 A.M. TO 11:00 A.M.)
U.S. GOVERNMENT AND COMMERCIAL ISSUES**

Radisson Resort at the Port, Convention Center

EXHIBITS & SCIENCE FAIR (11:00 A.M. TO 7:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

LUNCHEON (12:00 NOON TO 1:30 P.M.)

Radisson Resort at the Port, Convention Center

PAPER SESSION I (2:00 P.M. TO 5:00 P.M.)

- A. GLOBAL SPACE INITIATIVES
- B. HUBBLE DISCOVERIES
- C. EDUCATION: SPACE-BASED RESEARCH AND DEVELOPMENT

SPACE CONGRESS BANQUET

Radisson Resort at the Port, Convention Center

Social Hour (7:00 p.m.)

Dinner Program (8:00 p.m.)

WEDNESDAY, MAY 2

REGISTRATION DESK OPEN (7:00 A.M. TO 5:00 P.M.)

Radisson Resort at the Port

LEAD OFF SPEAKER (8:00 A.M. TO 8:30 A.M.)

**PANEL SESSION II (8:30 A.M. TO 11:00 A.M.)
INTERNATIONAL PERSPECTIVES**

Radisson Resort at the Port, Convention Center

EXHIBITS AND SCIENCE FAIR

(11:00 A.M. TO 5:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

LUNCHEON (12:00 NOON TO 1:30 P.M.)

Radisson Resort at the Port, Convention Center

PAPER SESSION II (2:00 P.M. TO 5:00 P.M.)

Radisson Resort at the Port, Convention Center

- A. SPACE STATION**
- B. EARTH, MOON, MARS, AND BEYOND**
- C. EDUCATING THE NEXT GENERATION**

EXHIBITS RECEPTION (6:00 P.M. TO 8:00 P.M.)

Exhibit Hall (Tickets Required)

THURSDAY, MAY 3

REGISTRATION DESK OPEN (7:00 A.M. TO 5:00 P.M.)

Radisson Resort at the Port

LEAD OFF SPEAKER (8:00 A.M. TO 8:30 A.M.)

PANEL SESSION III (8:30 A.M. TO 11:00 A.M.)

SCIENCE

Radisson Resort at the Port, Convention Center

EXHIBITS AND SCIENCE FAIR

(9:00 A.M. TO 3:00 P.M.)

Radisson Resort at the Port, Convention Center Exhibit Hall

PAPER SESSION III (1:00 P.M. TO 4:00 P.M.)

- A. LAUNCH VEHICLES**
- B. SCIENTIFIC ENLIGHTENMENT - KNOWLEDGE GAINED FROM SPACE**
- C. SPACE ODYSSEY - THE NEXT 50 YEARS**

PANEL SESSION IV (7:00 P.M. TO 8:30 P.M.)

MEET THE ASTRONAUTS

Radisson Resort at the Port, Convention Center

FRIDAY, MAY 4

PANEL SESSION V (9:30 A.M. TO 11:30 A.M.)

STUDENT EDUCATIONAL PROGRAM FOR INVITED STUDENTS

SPACE CONGRESS GOLF TOURNAMENT

(10:00 A.M. TO 4:30 P.M.)

MISSILE, SPACE & RANGE PIONEERS' ANNUAL

BANQUET (6:30 P.M. TO 10:00 P.M.)

PATRICK AFB, OFFICERS' CLUB

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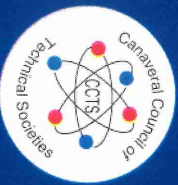
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